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Bleaching of cotton fabric with tetraacetylhydrazine as bleach activator for H₂O₂

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Highlights

- TH was synthesized and firstly used to bleach cotton knitted fabric.
- TH could significantly promote the WI and H₂O₂ decomposition rate.
- H₂O₂/TH system could lower bleaching temperature and save energy.
- Bimolecular decomposition was investigated by using DMA as fluorescent probe of ¹O₂.
- A bleaching mechanism of the H₂O₂/TH system was proposed.

Abstract

Tetraacetylhydrazine (TH) as bleach activator for H₂O₂ cotton bleaching was synthesized and characterized by ¹H NMR, ¹³C NMR and MS spectra. TH has better solubility than that of TAED. The CIE whiteness index (WI), H₂O₂ decomposition rate and bursting strength were employed to investigate

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